OUTBREAK IN BRITAIN OF *STEPHANITIS TAKEYAI* DRAKE & MAO (HEMIPTERA: TINGIDAE), A PEST OF *PIERIS JAPONICA*

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Abstract. An outbreak of *Stephanitis takeyai* Drake & Mao is reported causing serious damage to *Pieris japonica* plants in Berkshire, England. Statutory action is ongoing to eradicate the pest.

Stephanitis takeyai Drake & Mao is a sap feeding pest that was first detected in Britain when infested foliage of *Pieris japonica* (Thunb.) D. Don (Ericaceae) was sent for diagnosis to the Royal Horticultural Society (RHS) Garden, Wisley from the Savill Garden, near Windsor, Berkshire in January 1998 (Malumphy *et al.*, 1998). The foliage was heavily marked with a coarse yellowish mottling and bronzing of the upper surface (Fig. 1). The underside of the leaves had a dirty appearance with numerous nymphal cast skins and spots of brown dried liquid frass. Both adult insects and eggs were present; the latter were inserted into the leaf lamina, usually near the central vein on the lower leaf surface. The staff of the Savill Garden had first noticed that some of their *Pieris* shrubs were affected during the summer of 1997. The plants were part of a consignment of 40–70 plants imported from The Netherlands during 1995. The occurrence of this pest was notified to the Department for Environment, Food and Rural Affairs, Plant Health and Seeds Inspectorate (PHSI), and a survey with staff from the Central Science Laboratory was done to find the extent of the outbreak.

Numerous *Pieris japonica* plants were infested and several exhibited severe feeding damage and leaf loss. The initial survey revealed that *S. takeyai* had spread a few miles from where infested plants were first noticed, to Valley Gardens. They were feeding on the following ericaceous hosts: *Pieris japonica*, including *P. japonica* 'Mousehole' and *P. japonica* var. *yakushimensis*, *Pieris formosa* var. *forrestii*, *Rhododendron* 'Alice Street', *R.* Cilpinense Group, *R.* 'Hawk' × 'Griffithianum', *R.* 'Loderi Pink Topaz' and *Agarista populifolia*. Action was taken to de-leaf *Pieris* plants in heavily infested areas and plants with live insects were sprayed with an insecticide before de-leafing. A similar exercise was repeated in 1999. Although the outbreak appears to have been largely controlled by this action, some feeding damage was discovered in subsequent years and efforts are continuing to achieve eradication.

Specimens of *S. takeyai* collected from the outbreak in Berkshire have been deposited at the Central Science Laboratory, RHS Garden, Wisley and The Natural History Museum, London.

The pest has subsequently been intercepted by the PHSI on several occasions at commercial plant nurseries on *P. japonica* plants imported from The Netherlands. The Dutch phytosanitary service reported the occurrence of *S. takeyai* from a single bush of *P. japonica* in a private garden in Boskoop, province of Zuid-Holland in 1994. The infested plant was destroyed (Aukema, 1999). Statutory action continues to be taken by the PHSI to contain and eradicate this damaging alien pest whenever

Fig. 1.

it is found. In September 2002 samples of infested *P. japonica* were sent to Wisley Garden from a private garden in West Byfleet, Surrey. The plant was at least 15 years old but the feeding damage had only been noticed in the current summer, suggesting that a new outbreak area has occurred. West Byfleet is about 8 miles from the Savill Garden.

Stephanitis takeyai is native to Japan, but has spread to the northeastern USA, India, The Netherlands and Poland (CABI/EPPO, 2000).

This tingid bug has been given the common name of the Andromeda Lacebug as in North America, *P. japonica* is commonly known as the Japanese andromeda (in the past *Pieris* spp. were classified as *Andromeda* spp.) In Britain, *P. japonica* does not have a generally accepted common name and so a better name for this pest would be the Pieris Lacebug. In addition to the aforementioned ericaceous plants it has also been recorded feeding on (but not necessarily breeding on) plants belonging to the families, Ebenaceae, Illiciaceae, Lauraceae, Pinaceae, Salicaceae and Styracacaeae; although the specific plants recorded in these non-ericaceous families are mostly not widely grown in Britain.

The ability of *S. takeyai* to attack *Rhododendron* is likely to cause confusion with the Rhododendron Lacebug, *Stephanitis rhododendri* Horvath, as the symptoms of leaf damage are similar. *Stephanitis rhododendri* is another introduced species in Britain, being first recorded in the London area at the beginning of the 20th century. Today it is not common but occasionally causes damage to rhododendrons in parks and gardens in southern England. Both species have adults that are 3–4 mm long when measured from head to wing tips. The adults of the two species are relatively

Fig. 2.

easily separated morphologically. The pronotum of *S. takeyai* bears short setae and the central area is developed into a large globular netted structure (Figs 2 & 3). The pronotum of *S. rhododendri* is covered in long setae and the central area is less well developed. The wings of *S. takeyai* have mostly black veins, as are the reticulate veins on the lateral margins of the pronotum and the hood over the head; in *S. rhododendri*

Fig. 3.

these veins are yellowish brown. The wings of *S. rhododendri* have a single brownish band running across the basal third of the wing; in *S. takeyai* there are black bands running across the basal and apical thirds of the wing and these bands are broadly joined along the hind wing margin. The central area of the pronotum is black in *S. takeyai* but brown in *S. rhododendri*. Adults of *S. rhododendri* occur in midsummer and it is unusual to find any adults alive beyond the autumn. Both species are recorded as overwintering as eggs in the mid-rib of the leaves. However, adults and nymphs of *S. takeyai* have been found at Savill Garden during the winter months of December and January and the biology of this pest in Britain is unclear.

In conclusion, *S. takeyai* is recorded as the most serious pest of *P. japonica* in the USA and it also attacks other common and commercially valuable ericaceous ornamental plants, such as *Lyonia* and *Rhododendron*, which are widely grown in Britain. Susceptible plants can suffer leaf loss and the yellowing of the foliage lowers the aesthetic appearance of ornamental plants, thereby reducing their quality and value. Any suspected cases of non-indigenous lace bugs on imported plants should be notified to the local PHSI office or the PHSI HQ, York (Telephone: 01904 455174).

Acknowledgements

The authors would like to thank Lynn Randall and the garden staff at the Savill Garden for bringing this bug to our attention and their subsequent actions aimed at eradicating this damaging pest; and to the PHSI for the survey and recommending control measures.

References

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SHORT COMMUNICATION

***Scythris inspersella* (Hübner) (Lepidoptera: Scythrididae): a new species in Yorkshire.** A single specimen of this species was found at Allerthorpe Wood (SE 760 480) in East Yorkshire on 31 July 2001. It has since been verified by H. E. Beaumont, Yorkshire Naturalists' Union microlepidoptera recorder. According to (Emmet & Langmaid, 2002) *S. inspersella* has been found in Britain to date only from North West Norfolk, more than 140 miles away. Allerthorpe Wood, owned by the Forestry Commission, is characterised by coniferous plantation with wide dry rides and the moth's food plant rosebay willowherb *Chamerium angustifolium* (L.) Holub (Onagraceae) is plentiful. Given that the moth feeds on a widespread plant, it is surprising that no other records exist.—Dr David Chesmore, 39 Hawthorn Drive, Holme on Spalding Moor, York, YO43 4HX

Reference

Emmet, A. M. & Langmaid, J. R., Eds. 2002. *The Moths and Butterflies of Great Britain and Ireland*, **4**(1), Harley Books. 294 pp.